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## CROSS REFERENCE TO RELATED APPLICATIONS

[0001] U.S. 60/450,682

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR  
DEVELOPMENT

[0002] Not Applicable

## REFERENCE TO A MICRO FICHE APPENDIX

[0003] Not Applicable

## BACKGROUND OF INVENTION

[0004] 1. Field of Invention

[0005] Generation of entities to create economic value as in corporations, represent the aggregation of complementary skills and visions that create products that are expected to have a value to a set of markets that is greater than the cost of the utilization of all of the constituent participants and the resources brought to bear on the products. In the past these entities were largely created by manual searches for suitable candidates in each functional area and industry area required for the product by entrepreneurs who used largely informal networks for this process.

[0006] The present invention creates a new paradigm for the creation of economic value generating entities by using Trust networks and Professional Networks. In many embodiments of the invention, these Trust and Professional networks are created by aspects of the invention.

## SUMMARY

## OBJECTS &amp; ADVANTAGES

[0007] The objects and advantages of the present invention relate to the creation of entities that can generate economic value by utilizing the structure and content of communications among members of networks that are created both for social and professional interaction. Such economic value in the present invention may for example relate to the creation of business entities or a new approach for matching job seekers to job offerings with information in normal interactions between members on one or more networks. The invention defines a new approach

to creating the environment for such communications and also provides a process that uses existing networks as inputs for the process.

#### BRIEF DESCRIPTION OF DRAWINGS

[0008] FIGS. 1-35 provide slides that represent the process for building an example of the present invention.

#### DETAILED DESCRIPTION OF INVENTION

[0009] The present invention either uses a preexisting professional community or creates one or more such communities using the specialization and preferences of the members. These networks can result from professional organizations such as professional societies such as IEEE or Colleges and classmates in particular fields, Alumni of colleges, colleagues in profitable organizations, university staff and faculty etc. This forms the professional layer of the communities. There is in addition a Trust layer of the community that is created by the interaction of members of one or more networks that relate to personal relationships from prior or current contact in organizations or physical locations such as colleges, universities, alumni groups, companies, professional organizations, schools etc. The Trust Layer (TL) and the Professional Layer (PL) are parts of the Professional Collaboration Network (PCN)

[0010] The classification of the members into functional areas relevant for economic activity and industry groupings relevant for creating economic value is done to help focus dialog in the professional networks. Similarly the Trust networks get focus by segmentation in to the relevant groups that are interested in a dialog. For example class groups in an alumni Egroup.

[0011] The professional networks may have a range of classification mechanisms for the threads of discussion and dialog that flows through the network. One example would be an item for posting in the professional network be classified by the originator to have a components in one or more industry field and at least one functional area that is relevant for the posting (Fig 7). As responses are generated to the initial posting (Fig 8) They are classified in an attribute space (axes and distances representing attributes) , respondents are allowed to provide new combinations of the industry weightings for the response and the functional area if different to the original posting (Fig 9, Fig 10) and are noted in the attribute space. This will allow a tree of responses to develop where any branch of the tree may have a particular industry orientation with more industry specialists targeting a response (fig 11). The model can have fees for responses to the postings made by the PCN and partly paid to respondents. However, this may not be necessary as, another model can use the desire of the participants to create a reputation to drive their interest providing inputs. The originator may provide inputs on the relevance of the responses in resolving the issue originally posted.

[0012] These professional networks keep functioning to address specific queries of members and may have economics of their own in providing incentives for respondents. However, in addition they create a record of competence for each of the participants. This record can take many forms depending on the structure that is created for the interaction and the definition of the threads of discussion. Some examples are provided in the figures but they are by no means complete in terms of such structures. When a new venture or other entity is contemplated by an entrepreneur or even a existing entity that has job vacancies, such professional networks can be queried to provide the competence record of the members.

One possible structure for the Professional Layer is shown in Figs 24 and 25.

Process for diligence displayed on E 's screen: E can initiate the following and view responses

PROFESSIONAL EVALUATION with possible EXTERNAL EXPERT VALIDATION

Professional interactions of bidder on network (for fee from E to PCN)

Professional layer has an attribute space for the set of all postings of the bidder in the network (this will have a distribution in the space. Coloring can represent the density) The E (user) can click on any point in the space and view the nearest postings that the bidder has made along with the position in the tree and the thread along with the attribute space of the trajectory of responses leading to, and following the bidder's contribution (as a respondent or as a initial posting) To get a sense of the contributions of the bidder in that dialog

E (user) requests referees. Referee may also stay anonymous and have 2<sup>nd</sup> level referees referee him/her with disclosed identities to E. It may also be multiple level undisclosed referees and disclosed at the final level. If all levels are undisclosed we may have guarantees to help the decision of E or the use of a validator at the final level to help the decision.

The +/- overall reference is saved for each reference in PCN and a score of the referees over time is generated from the matching percentage of + references to accepted bids from the subject of the reference. ( If multilevel reference the success of the next higher level references used. There must of course be a full chain of + professional ability at levels above to validate the higher level reference. The inference is between the opinion of the subject and the inferred professional ability +/- of the subject based on the actual decision of E and the chain of higher level referee opinions)

Entire PROFESSIONAL LAYER (PL) NETWORK is broadcast with who has bid for job.

Any member of network can provide a "reference" (+ or -) to E (potentially for a small payment by PCN/E) if accepted (potentially for a fee to PCN from E). BIDDER gets notification of referee and can notify on the same reference bidders relationship to referee (adverse or

constructive). Both the content of the reference and the number of adverse relationships as noted by Bidder can be useful inputs to E. Referee may also stay anonymous and have 2<sup>nd</sup> level referees referee him with disclosed identities. It may also be multiple level undisclosed and disclosed at the final level. If all levels are undisclosed we may have guarantees to help the decision or Professional External validator at the final level to help the decision.

If there are 2<sup>nd</sup> level and 3<sup>rd</sup> level ...nth level evaluations of referees by those who know the referee at the higher level (eg level 3 who know level 2) and the same structure for evaluation of the bidder can be applied to the referees. This process for each of the referees is broadcast on the PL when requested by E (potentially for a fee to PCN) The referees of referees can also be paid a small fee for their contribution by E/PCN through PCN)

The +/- overall reference is saved for each reference in PCN and a score of the referees over time is generated from the matching percentage of + references to accepted bids from the subject of the reference. ( If multilevel reference the success of the next higher level references) to generate a reputation of reliability for each referee in future transactions – potentially viewable by E.

Any of the referees can also sell guarantees on the subject. These may addition be underwritten by a financial institution even on a credit card. These may be stronger signals of support. (The E's screen can represent guarantees on any level of referee in a different color or other notation) Guarantee will usually be on action that is observable in a short time. The PCN generates the legal contracts for this.

Note: PCN Provides a network of "validators" (Field experts) to assess the professional interactions of the bidders or referees and/or evaluate bidders for job/task (for a fee to PCN). E can ask one of more Validators for an opinion.

Input to the Profession layer is enabled with User Screens (Fig 7). Users of the Professional Layer can extract information from User Screens (Fig 16, Fig 18.). Bids may be posted with User Screens (Fig 20).

[0013] In the past such "references" came from a forward search among individuals known to the originator of the search. Then to take advantage of the economies of scale in the relationships in each field search firms were set up to use relationships that can be reused for new relationships. Such search firms manifested themselves to some extent in Venture Capital Companies that used relationships in their data banks to create economic value over and above the capital they provided. The present invention provides a more powerful paradigm as both forward and

backward searches may be conducted in the networks and the infrastructure for transactions may even be designed to provide the right parameters for measuring the performance of members when there is a search of a new business entity conducted by an entrepreneur or a job posting for a company.

[0014] In a similar vein there is a need for trust relationships or "personal references" for generating new relationships in a business venture or for that matter in hiring decisions. The structure of interactions in networks can get harnessed to provide key information in terms of the relative strength of relationships such as derived from the frequency of interaction between members or of interaction of members to groups that are responded to by other members. Such linkages can be connected to get to a set of relationships with the Entrepreneur or other searching party (E) and then a forward search from E conducted right through to the possibly several paths to the subjects of the search. There can also be information on the nature of the relationships in the networks that are made available. One possible structure for the Trust Evaluation may work as follows See Fig 23:

1. The Trust Layer (TL) or a part of it (multiple TLs are possible) is broadcast:
  - 1.1. Any member of a TL can provide a reference to the E (+ or -) (possibly for a small payment of by PCN/E to the referee- if accepted - fee to PCN from E). Bidder (service provider) gets notification of Referee and can notify on the same reference Bidders relationship to Referee (adverse or constructive) . Both the content of the reference and the number of adverse relationships can be useful inputs to E.
  - 1.2. E can choose to broadcast a request for references for level 1 Referees by level 2 Referees -Parties known to the level 1 Referee can respond direct to E ( and so on for any number of levels either as a single step for which the PCN generates requests, as it receives new Referees, or manually when the E decides to ask of higher level Referees.
  - 1.3. Level 1 Referees can also flag to TL that they are Level 1 and can invoke Level 2 parties that can validate Level 1s etc for multiple levels.
  - 1.4. E needs to close the loop on Trust References to him/her self and may initiate a backward chaining of references that get 2nd level .....nth level references some of which are known to E.
2. Any of the Referees can also sell guarantees on the reputation of the Referees or the Bidder. These may in addition be underwritten by a financial institution. ( or even on a credit card in some cases) . These may be stronger signals for support of the subject of the reference. (E's screen may show some nodes representing Referees with guarantees shown in a different color or representation)
- 2- Input to the Trust Layer is enabled by User Screens (Fig 5)

[0015] There is an issue of intrusion into privacy of the members. However, there can be disclaimers designed for members on entry to allow such information to facilitate such processes

that such members can be beneficiaries of. For example, they could be paid by the PCN for allowing their interactions to be used in a search.

[0016] The above structure can be used as noted in a passive manner for a record of past actions of members of the PCN to provide inputs in a search. In addition there can be active interactions of members on request by the PCN for additional information or economic exchange. For example there can be referees at different levels as shown in the figures for both the TL and the PL that can be paid by the PCN or another agent through the PCN. In addition members who are knowledgeable about performance of members in a search may choose to provide performance guarantees to the searching party through the PCN thereby providing greater confidence to the E. Often such guarantees are more credible if underwritten by a credible financial institution. Such arrangements and the guarantee arrangements along with legally binding agreements in the relevant jurisdictions and locations of the members for all economic transactions may be generated and executed by the PCN.

[0017] The process of creation of a new venture by an E may start with the PCN providing a forum of Intellectual Property legal firms that offer services to the PCN member (potentially for a fee to the PCN). The E can then decide on one of these and then set up the IP requirements before creating a legal entity for operating the venture (such as a corporation or LLC etc) Again this can be done through a set of legal entities that provide such set up services in different jurisdictions available on the PCN (potentially for a fee to the PCN). Once the business plan is created by E (again resources for this can be provided through sets of consultants who execute non disclosures and operate through PCN for a fee as in the last two steps) , there is a need to find members of a team for the venture. The PCN provides the channels for posting requirements, bidding for the process and providing the diligence and then finalizing the arrangements (all for a fee which can include equity in the entity, wage based compensation or other claims on the economic value created by the transaction)

[0018] Initially the E posts the requirements for each participant in the intersection of the relevant industries and the relevant functional areas. Reservation equity or wages or other terms may be provided to be explicit or available only on meeting the conditions for reservation being met. The respondents bid with identities and any additional information they wish to provide and granting permission if they choose to allow E to go through a diligence process on PCN.

[0019] The E then may go through both a Trust evaluation and a Professional evaluation of the candidates. One or more Trust Layers (TL) that the respondent is a member are notified of the member's interest and references are solicited. Such referees are backward chained to second, third and higher level references till a known or trusted party is found as a referee at some  $n^{\text{th}}$  level trusted by the E. This will then permit a forward chaining of verification of trust relationships in the paths to the respondent from the E. All members connected together by a

chain of linkages between pairs of members are part of a connected network. Every unique path along linkages between pairs of members with no linkage traversed twice is a connection thread.

[0020] A parallel channel would be the utilization of the strength of communication relationships which may be established with the frequency of communication between members or other criterion related to the strength of relationships between members. Such communications may be backward chained till the E is reached and then the E may choose to forward chain to verify the subject through the network. Notably, the communication network may be based on direct communications or communications to a sub network of any of the TL s and the response of other members to that communication.

[0021] Guarantees may also be provided for a fee with specific defined criteria that are triggers for payment.

[0022] Similarly the diligence process for Professional performance may be conducted with the E viewing (potentially for a fee) a communications distribution of the subject in the space of industries and the space of functional areas. He may click or otherwise select a point or a region of the space to investigate the competence of the subject. Such a selection may give the postings that the subject has made in the local neighborhood of the selection (the E can choose the size of the neighborhood) these postings will be classified in terms of the functional focus and industry focus and the context of each of these in terms of the trajectory of the prior and following postings in the thread in these spaces. It may also give the position on the tree of communications following the initial posting for each of these communications, to establish the relevance (early termination of a tree may be because an answer has been reached or because the branch has become irrelevant).

[0023] Furthermore the E can broadcast a request for referees that inhabit the neighborhoods that E has selected to provide references on the subject. PCN can provide a network of experts to evaluate the referees remarks or the subject. (for a fee. The experts may also be paid by PCN or be retained simply by generating a reputation for themselves) The bidder/subject will normally be informed of the request for references and the referees identities and be allowed to provide a perspective on that referee either positive or negative that is available to the E when evaluating the referee inputs.

[0024] There can be 2<sup>nd</sup> 3<sup>rd</sup> or higher order referees which can be evaluated by E or by experts. It is also possible to have first order referees to stay anonymous as long as they provide second order referees that evaluate them to disclose their identities. This argument may be carried to multiple levels of anonymous referees.

[0025] There may also be a background process for establishing the reputation of referees in

providing accurate inputs by correlating the positive references to positive decisions by E or in the case of multiple level referees the next higher level referee success in prediction (chained back from the success of the E)

[0026] Any of the referees can also provide guarantees as in the TL related to a specific predefined trigger criterion to help the E in a decision.

[0027] The E may then finalize decisions on the bidders and if necessary counter offer and receive responses any number of times through PCN and arrive at a decision possible after meeting with the bidders.

[0028] The PCN may get a fee based on economic value of the entity created that may be equity or other claim on the entity such as a senior claim as in preferred shares etc or simply contingent claims on performance

[0029] The next step is to attract finance to the entity. Here again the PCN may have a forum of investors that may be Venture Capitalists or Angel investors etc. Upon request by E to the Financier, the Financier may initialize a diligence process on PCNs that he is a member of to check each of the participants. The process is analogous to the process conducted by E for the other participants.

[0030] PCN can charge a different fee for this service to capital providers.

[0031] A second factor for this stage of the process is that the E can use the information that he has got in the diligence process he has conducted to selectively present what he chooses to the financier.

#### IMPLEMENTATION FOR A GEOGRAPHICALLY DISTRIBUTED MEMBERSHIP

An embodiment of the invention for a geographically distributed membership with a Web implementation is illustrated in Fig 34. It illustrates several user client screens for data input, and illustrates access to server databases for response to queries and browsing content. Databases may have common tables with outside networks (Fig 5) to integrate them to the PCN.

Fig 34 illustrates the entire group and a subgroup ( which may or may not be a single location) with representative filters for the sub-group in database queries. The implementation also shows practical implementation issues including governance and management for the PCN with an Executive Board, an Advisory Board and an Advisory Network. Client User Screen (Fig 5) are used for posting information by members.